

WHAT IS CLAIMED IS:

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1. A method of making an arc tube chamber intermediate open tubular end portions comprising the steps of:

- (a) providing a tube of vitreous material;
- (b) heating a portion of the tube sufficiently to soften it in a predetermined area;
- (c) axially compressing the tube to force the softened material in the heated area radially inward and outward around the circumference of the tube to thereby thicken the tube wall in the heated area;
- (d) repeating step (b) and step (c) in areas of the tube proximate to the previously thickened tube wall at least one additional time to thereby thicken the wall of the tube over an axial distance approximating the length of the desired chamber;
- (e) heating the thickened wall area of the tube;
- (f) positioning a mold having a chamber cavity of a desired shape over the heated thickened wall area;
- (g) internally pressurizing the tube to expand the heated thickened area of the tube against the internal wall of the mold cavity to thereby form a chamber in the tube; and
- (h) removing the mold from the chamber to thereby provide an arc tube chamber intermediate open tubular end portions.

2. The method of Claim 1 wherein the ratio of the diameter of the tube to the maximum vertical height of the mold cavity is between about 7/10 and about 7/30 to thereby reduce the amount of heat required for the pinch seal.

3. The method of Claim 1 wherein the ratio of the diameter of the tube to the maximum horizontal width of the mold cavity is between about 7/10 and about 7/30 to thereby reduce the amount of heat required for the pinch seal.

4. The method of Claim 1 wherein the ratio of the maximum vertical height of the mold cavity to the maximum horizontal width of mold cavity is approximately one.

5. The method of Claim 1 wherein the two longitudinal halves of the mold cavity are symmetrical.

6. The method of Claim 1 wherein the mold cavity is symmetrical in vertical cross-section throughout the length thereof.

7. The method of Claim 1 ~~wherein the mold cavity is asymmetrical in horizontal cross section.~~

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H3 8. The ~~method~~ of Claim 1 wherein the mold cavity is positioned bottom side up in step (f).

9. The method of Claim 1 wherein the mold cavity is horizontally split for positioning in step (f).

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H4 10. The ~~method~~ of Claim 9 wherein the mold cavity is positioned bottom side up in step (f).

11. The method of Claim 1 wherein the bottom of the mold cavity is flattened in an area between about 20 and about 80 percent of the maximum width of the mold cavity.

12. The method of Claim 1 wherein the bottom of the mold cavity is flattened in an area between about 20 and about 80 percent of the maximum length of the mold cavity.

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13. The method of Claim 12 wherein the bottom of the mold cavity ~~in the~~ longitudinal center thereof over a distance ~~between~~ about 50 and about 60 percent of the ~~length~~ of the mold cavity.

14. The method of Claim 1 wherein the top of the mold cavity is arched.

15. The method of Claim 1 wherein the mold cavity is widest at the longitudinal center of the cavity and progressively more narrow towards the ends of the chamber.

16. The method of Claim 1 wherein the mold cavity is tallest at the longitudinal center of the cavity and progressively more narrow towards the ends of the chamber.

17. The method of Claim 1 comprising the further steps of:

(i) positioning an in-lead connector, foil and electrode assembly within each open tubular ends ;

(j) heating the open tubular ends; and

(k) pinch sealing the open tubular ends over a portion of the assembly to thereby form an arc tube.